FOREWORD

This plan was developed to describe the aviation services, agency policies, regulations, and procedures on the Forest. Information presented in this document is a critical component of the Eastern Region Aviation Program.

Questions regarding this plan should be directed to the Shawnee National Forest Aviation Officer. This plan shall be reviewed and updated annually.

Shawnee National Forest

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2011/2012

SHAWNEE NATIONAL FOREST

AVIATION MANAGEMENT

AND

SAFETY PLAN

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Chapter 1

ORGANIZATION

Scope

The scope of this document is the Shawnee National Forest (SHF) and the employees, cooperators, and users of the Forest.

Purpose

The purpose of the plan is to identify Forest aviation management, objectives, programs and activities, and to provide strategic and operational guidance to users as appropriate. This plan is supplemental to the Regional Aviation Management and Safety Plan.

Objectives

- Provide emphasis on aviation safety.
- Provide for safe, effective, and economical use of aviation resources to efficiently meet the needs of land management activities.
- Describe Forest aviation management programs and activities.

Overview

The Shawnee NF typically does not have normal forest aviation operations except limited flights for forest health protection, aerial photography, law enforcement, and search/rescue operations.

Operations are performed over relatively flat terrain, with an elevation range from 300 feet to approximately 1,000 feet mean sea level. Vegetative cover includes mostly oak-hickory dominated forests, with significant tracts of non-native pine (approximately 6%), some open lands (approximately 4%), and oak-hickory mix (approximately 90%). Climatic conditions range from hot humid summers to dry moderately cold winters.

The SHF consists of two Ranger Districts representing approximately 285,000 acres. With the land ownership pattern and the proximity to developed/urban areas and associated flight paths, the SHF manages a low complexity aviation program.

The overlying airspace does not include Prohibited/Restricted Areas, Military Training Routes (MTR's), but does include private/public airports.

There is no helibase managed by the SHF, but secured aviation facilities are available at the Marion, Illinois Airport.

Organization and Responsibilities

Refer to Appendix B, Aviation Organizational Chart.

Forest Fire Management Officer (FFMO)

Supervises the SHF fire and aviation management activities.

Forest Aviation Officer (FAO)

Provides direction, leadership, and management of the forest aviation program (as delegated by the Forest Supervisor), including coordination of aviation activities with the Regional Office (RO) and other agencies aviation staff.

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Project Aviation Officer (PAO)

Administers special aviation projects outside the normal aviation activity of the Forest. Examples include wildlife surveys, seeding, etc.

Coordination Center Manager/Initial Attack Dispatcher

Implements the safe, cost effective ordering, scheduling, dispatching, and tracking of SHF aviation resources. Coordinates Temporary Flight Restrictions (TFR) and Notices to Airmen (NOTAM) with the Federal Aviation Administration (FAA). Coordinates and implements emergency response plans.

Designated Local Flight Follower

Provides remote radio and/or visual contact with aviation resources during a mission. Maintains communications with the aircraft, tracks the location, and provides assistance needed. The flight follower shall be familiar with the Aviation Mishap Response Plan (NFES 1356) to initiate the proper response procedures.

Fixed-wing Manager

A Fixed-wing Manager will be designated for all passenger airplane flights other than scheduled airline flights. The unit scheduling the flight will make this designation. On those flights with only one passenger, that passenger will become the Fixed-wing Manager. When a flight manager, such as a mission coordinator or helicopter manager, is already assigned, a Fixed-wing Manager need not be designated.

Airtanker Base Manager (ATBM)

When filled, this position manages portable airtanker base operations. (Refer to specific Portable Airtanker Base Operations Plan).

Mixmaster (MXMS)

When filled, this position supervises the retardant-mixing and loading. (Refer to specific Portable Airtanker Base Operations Plan).

Ramp Manager (RAMP)

When filled, this position supervises aircraft, cargo, and personnel on the ramp. (Refer to specific Portable Airtanker Base Operations Plan).

Helibase Manager (HEB1/HEB2)

Manages helibase operations. (Refer to Shawnee Helibase Operations Plan once completed).

Helicopter Manager (HELB/HELM)

Manages helicopter operations. (Refer to Interagency Helicopter Operations Guide IHOG and Shawnee Helibase Plan.

Aerial Observer (AOBS)

Performs reconnaissance missions for fires and other types of projects.

Air Tactical Group Supervisor (ATGS)

Performs surveillance and supervision from an aerial platform to support ground personnel and coordinate the use of tactical aircraft during complex aviation operations (FSM 5716.32).

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Contracting

Refer to Appendix D, Contracting Organizational Chart.

Contracting Officer (CO)

Responsible for all contracting actions including contracting procedures and methods, contract legality, compliance with existing laws and regulations, contract administration and terminations.

Contracting Officer's Representative (COR)

Monitors contract performance as designated/delegated by the CO to ensure compliance with the administrative provisions of the contract.

Contract Inspector (CI)

Designated/delegated by the COR to assist in administering the contract.

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General

Forest Service aviation activities include both "civil" and "public" operations. Civil aircraft operations shall comply with applicable sections of 14 CFR as well as Forest Service (FS) policy. Public aircraft operations shall comply with applicable sections of 14 CFR (control of air traffic, use of airspace, and aircraft registration) as well as FS policy. Life-threatening emergencies may require deviation from policy. The pilot-in-command (PIC) is responsible for the safety of the aircraft, its occupants, and cargo. The PIC shall comply with federal aviation Regulations (FARs), and FS Aviation policies or contract specifications to the maximum extent practical. The PIC shall refuse any flight considered unsafe. These situations shall be reported by the pilot and documented on Aviation Safety Communiqué (SafeCom, Form FS-5700-14).

Aviation operations shall comply with the Federal Aviation Regulations (FAR), Forest Service Health and Safety Code, Forest Service Manual (FSM), and Forest Service Handbooks (FSH) as supplemented by the Region and Forest. The following activities, procedures, and services shall be guided by the stated policy. When a more detailed explanation is required the appropriate reference is cited.

Procedures

The following activities and procedures shall be guided by the stated policy. In some cases a more detailed explanation is required. In those cases, the appropriate reference is shown. Any activity involving aircraft or aviation resources also becomes an aviation project. Employees shall contact local aviation managers prior to planning any aviation activity. Involvement of local aviation personnel is necessary at the earliest possible planning stage. Employees shall review applicable aviation and safety plans before planning aviation projects.

Aircraft and Pilots

Forest Service employees shall use only aircraft and pilots that have been properly approved (FSM 5703.1 and 5720.3.4). Aircraft shall display an Interagency Aircraft Data Card or letter of authorization in the aircraft. Pilots are required to present a Pilot Qualification Card, or letter of authorization listing the missions for which they are approved to fly. The Fixed-wing Manager has the responsibility to check these documents to confirm the aircraft/pilot authorizations have not expired and authorized to perform the intended mission.

Forest Service and Aviation Management Directorate (AMD) do not inspect point-to-point only aircraft. These aircraft are not approved for special mission use. The AMD issues pilot Point to point card which is valid for 2 years which also identifies aircraft that are authorized for use. Pilots shall also be issued a yellow card valid for 1-year that identifies the vendor and the aircraft type if they do not already possess a FS or AMD pilot qualification card.

The authorization of non-FS approved aircraft for transportation of FS employees allows for transporting only those employees intimately involved with cooperator projects. This limits FS use of cooperator aircraft to personnel whose direct on-site presence is required.

Line and staff officers determining that FS employees cannot use existing approved aircraft and also need to be transported in a cooperator's or third party aircraft, shall observe the following:

- Allow adequate advance notice.
- Confirm cooperator's willingness to fly non-revenue FS employees.
- Contact the Unit Aviation Officer (UAO) to request regional aviation management to inspect and/or authorize both the aircraft and pilot in accordance with FSM 5712 and FSM 5713.
- The requesting unit shall pay all expenses incurred while approving the aircraft and pilot.
- Plan the flight through normal dispatch channels.
- Authorization shall be contingent upon providing a level of safety identified by applicable FSM 5700 standards. This includes:

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- FS employees participating in helicopter flights shall wear the PPE as required by Interagency Helicopter Operations Guide (IHOG).
- Low-level flights in airplanes are not authorized.
- Notwithstanding FSM 5713.52 (Unplanned Flights), when FS employees find it necessary to fly with other groups or individuals within Eastern Region 9, authorization shall be requested in accordance with the procedures above.

Pilot Authority and Responsibilities

The Pilot-In-Command (PIC) is responsible for the safety of the aircraft, its occupants, and cargo. The pilot shall comply with the directions of the Government, except when in the pilot's judgment compliance will violate applicable Federal or State regulations or Contract provisions. The pilot shall refuse any flight or landing which is considered hazardous or unsafe.

The pilot is responsible for computing the weight and balance for all flights and assuring that the gross weight and center of gravity do not exceed the aircraft's limitations. Pilots shall be responsible for the proper loading and securing of passengers and cargo.

The pilot shall use a current cockpit checklist, which is accessible from the pilot's seat location in accordance with 14 CFR 135.

The pilot shall remain at the flight controls while the engines are running/propellers/rotors are turning.

Smoking is prohibited in the aircraft and within 50-feet of fuel servicing equipment/aircraft.

Passenger and Cargo Loading

No equipment such as radios, survival gear, fire tools, etc., shall be located in or on the aircraft in such a manner as to potentially cause damage or obstruct the operation of equipment or personnel. All cargo shall be secured by approved tie-down means.

The pilot shall not permit any passenger to ride in the aircraft or any cargo to be loaded therein unless authorized by the CO.

Loading/unloading of passengers/cargo is prohibited while engines are running/propellers are turning.

Interim Pilot Duty Limitations

Interim flight and duty limitations can be found in Chapter 20 of the National Mobilization Guide and in FSH 5709.16. When Phase 2 and 3 Duty Limits are anticipated, notification within 48-hours of effective date and time shall be sent by RAO to the National Interagency Coordination Center (NICC), Washington Office (WO) Contracting, and the Geographic Area Coordination Centers (GACC), dispatchers will then forward notification to local aviation managers, COs, and Incident Management Teams.

Night/IFR

Notwithstanding the FAA definition of night in 14 CFR Part 1; for operational purposes night shall mean: 30-minutes after official sunset to 30-minutes before official sunrise, based on local time of appropriate sunrise/sunset tables nearest to the planned destination.

Single-engine aircraft operations shall not be conducted during Instrument Meteorological Conditions (IMC) and/or night conditions as defined in 14 CFR with Government personnel on board.

Pilots flying night missions shall not land at an airport unless it meets FAA lighting standards.

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Single-engine aircraft flights at night may be authorized by a FS dispatch office/coordination center only for ferry when:

- Requested by the pilot;
- No occupants other than pilot(s) are aboard;
- The flight is conducted in accordance with 14 CFR Part 91; and
- Agency flight and duty limitations are observed.

The following FS operations in the Eastern Region are authorized to be conducted only between 30-minutes before official sunrise to 30-minutes after official sunset:

- Single-engine aircraft missions, other than ferry flights.
- Dropping of retardant/suppressants.

Low-Level Flight (Airplane)

Low-level (below 500-feet) flight is prohibited except for operations approved by FSM 5716.3.

Fuel Reserves (Airplane)

To provide adequate fuel reserve all operations shall comply with 14 CFR 91 for VFR (30-minute airplane/20-minute helicopter) and IFR (45-minute).

Temporary Flight Restrictions

Request for Temporary Flight Restrictions (TFR) will be submitted to dispatch by forest FMO/FAO. Dispatch will enter request into the NOTAM entry system, fill out a ROSS A order with NOTAM # and inform EACC. EACC can assist with this request.

Temporary Air Traffic Control Tower

A resource order should be placed with the IL-ILC for a temporary air traffic control tower when the volume of aircraft operations at an airport or field site are anticipated to exceed the ability of pilots to maintain adequate traffic separation; or when operating in the vicinity of congested airspace.

Animal Transport (Internally)

The pilot shall be notified and shall approve the transportation of animals before they are loaded aboard an aircraft. Animals shall be confined, restrained; or when necessary, sedated, accompanied by a trained handler, and transported in the rear of the aircraft.

Free-Fall Delivery (Airplanes)

Airplanes are restricted to dropping of items specifically designed for free-fall, such as standard FS message droppers; when it is necessary to establish contact with ground personnel in the absence of adequate communication by other means. Use of free-fall items, such as message droppers from detection aircraft, shall be done by personnel who have received training in the procedures and with aircraft at least 500-feet above ground level (AGL). All other free-fall or paracargo dropping from airplanes shall be done by a qualified smokejumper spotter and with aircraft approved for cargo dropping.

Exemption for Transportation of Hazardous Material

Aircraft may be required to carry hazardous materials in accordance with 49 CFR. Such transportation shall be in accordance with DOT exemption and the DOI or FS Aviation Transport of Hazardous Materials Handbook/Guide

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(NFES 1068). A copy of the exemption, handbook/guide, and DOT Emergency Response Guide shall be aboard each aircraft operating under the provisions of this exemption.

It is the vendors' responsibility to ensure that each employee that may perform a function subject to this exemption receives training on the requirements and conditions of this handbook/guide. Documentation of this training shall be retained by the company in the employee's records and made available to the Government as required.

The pilot shall ensure that all personnel are briefed as to what specific actions are required in the event of an emergency. The pilot shall be given initial written notification of the type, quantity, and the location of hazardous materials placed aboard the aircraft before the start of any project. Thereafter, verbal notification before each flight is acceptable. For operations where the type and quantity of the materials do not change, repeated notification will not be required.

It is the responsibility of the Contractor to ensure that employees have received training in handling hazardous materials in accordance with 49 CFR 172.

Pressurized irritants, such as Oleoresin Capsicum (OC) or pepper spray, aboard an aircraft present two types of risk to employees:

In the event of an accidental discharge within the confines of an aircraft cabin, it is likely that all occupants would be incapacitated. In addition to other HazMat handling requirements, Chapter 9 of the Aviation Transport of Hazardous Materials Guide specifies that "Irritants such as bear repellent or tear gas, carried within the cabin of the aircraft, shall be carried in a separate sealed container."

Missoula Technology and Development Center (MTDC) recommends the use of a vented container with foam liner in its information FS pamphlet "Safety Containers for Transporting Bear Repellent Spray Canisters in Vehicles."

Such items are treated as weapons by airport security if passengers attempt to board scheduled airlines with them in possession.

FS Employees Piloting Non-Government Aircraft

Upon written authorization by the RAO, which will delineate conditions and restrictions, FS employees may pilot their own or personally rented aircraft to transport themselves point-to-point while in official travel status when a Forest Supervisor, Regional Forester, or Regional/Station Director submits a request for the employee pilot, and:

- Flying shall be consistent with the capability and experience of the pilot.
- Employee pilots and aircraft are in accordance with FSM 5712.35 and 5713.42.
- Flights shall be conducted in accordance with applicable sections of 14 CFR and FSM 5700.
- Either a FAA or FS flight plan shall be filed for each flight.
- Employee pilots are not authorized to transport other employees, passengers, government cargo, or perform special mission flights.

Flight Hazard Maps

Each Forest/Unit shall create Flight Hazard Maps. As a minimum, these maps shall be updated annually and dated. Maps shall be available, displayed, and used at each location where flight planning, flight following, aircraft dispatch, or flight mission briefings occur.

The flight hazard map shows known hazards, i.e. potential aerial obstructions and Military Training Routes (MTRs). The flight hazard map may also show hospitals, schools, helispots, dip sites, and other prominent features.

Specific information about each MTR's location, activity scheduling, and scheduling centers are found in IAMS/CAHIS Software or Department of Defense (DOD) AP/IB charts/publication.

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Particular attention shall be placed on hazards that exist in the approach and/or takeoff patterns of helibases, helispots, dipsites, airports, and commonly flown routes.

Temporary hazards shall be marked and noted with legal information, i.e. name of contact, radio frequency, legal location, dates and/or times in effect.

All personnel are responsible for reporting aerial hazards to the FAO/UAO as the designated point-of-contact for inclusion of information on hazard maps.

Dispatch

Ordering Flights

Flights shall be for official business only. Requests for aircraft that involve FS personnel or projects will be coordinated through the appropriate dispatch center. Administrative flights require FS Form 5710 be completed. (Refer to Appendix I, Flight Request/Justification for Administrative Use of Aircraft)

Requests for airtanker retardant drops shall be placed with the IL-ILC. The order should include: fire name, job code, latitude and longitude, air contact and frequency, ground contact and frequency, other aircraft in the vicinity, and any known hazards. A written order shall be prepared and relayed to the air tanker base. The Incident Commander (IC) shall be provided an estimated-time-of-arrival (ETA) of the airtanker.

Infrared flights should be ordered through the ILILC. The flights are dispatched on a priority need basis and are limited in number. (Refer to Appendix H, Infrared Aircraft Scanner Request)

Flight Plans

Pilots shall file, open, and operate on a FAA, International Civil Aviation Organization (ICAO), or a FS or Department of the Interior (DOI)-Bureau approved flight plan for all flights. Contractor flight plans are not acceptable. Flight plans shall be filed prior to takeoff when possible.

Passenger Manifest

Prior to any takeoff, the PIC shall provide the appropriate FS or DOI dispatch office/coordination center with current passenger and/or cargo information.

Passengers (Federal)

Federal employees shall be on official duty and have the approval of the FAO/UAO or Helicopter Manager in order to be manifested on a government flight.

Senior Federal Officials and Senior Executive Branch Officials shall be approved, manifested, and documented in accordance with OMB Circular A-126.

Passengers (Non-Federal)

The Regional Forester has the authority to approve non-federal passengers on official government flights. When a decision to approve/disapprove a flight request does not meet the criteria in FSM 5716.4 or the decision maker is unclear regarding any aspect of the request, the request should be elevated to the Regional Forester for resolution.

Aircraft may carry such non-employees as cooperators, persons involved in search & rescue, etc., but only with the approval of the FAO/UAO. (Appendix K, Day Trip Authorization)

News media reporters shall have the approval of the FAO prior to any flight on Type III, IV, V Incidents.

Congressional members shall be approved, manifested, and documented in accordance with OMB Circular A-126.

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OPERATIONS

The following passengers (FSM 5710.5) are approved for transport aboard FS owned, leased, rented, chartered, or contracted aircraft (Day Trip Authorization not required):

- Cooperator wildland fire fighters
- Essential aircraft test flight technicians
- Essential personnel responding to an emergency

Resource Tracking

The IL-ILC shall provide radio frequencies for mission flights. Airport-to-airport flights may be flight followed by Air Traffic Control (ATC) or Flight Service Station (FSS) when filed on a FAA Flight Plan. When an aircraft is operating on FAA Flight Plan, the aircraft shall be tracked from point-of-origin to destination with the appropriate dispatch centers. It is the responsibility of the Fixed-wing Manager to contact dispatch to report takeoff and landing times, and passenger manifest information.

Flight Following

Pilots are responsible for flight following with the FAA, ICAO, or in accordance with FS or DOI-Bureau approved flight following procedures.

When performing special missions, pilots are required to flight follow in accordance with the Forest Aviation Plan, normally every 15-minutes.

Dispatch will use Automated flight Following (AFF) in all instances.

Overdue Aircraft

If an aircraft fails to report after 15-minutes, dispatch shall initiate overdue aircraft procedures. (Refer to Aviation Mishap Response Plan and Appendix M, Emergency Contact List)

Wilderness Areas

The Regional Forester or Forest Supervisor shall authorize the initial flight for medical or rescue aircraft missions in wilderness areas. The advance approval for initial missions in wilderness is only applicable to life-threatening emergencies when time is critical. Subsequent flights shall require a separate Forest Supervisor approval.

Aerial Detection

Aerial detection aircraft shall not deviate from the assigned route (track) specified in the Forest Aerial Detection Plan. Loitering (orbiting) over a location to pass information without a FS observer aboard is prohibited.

Special Projects

Special projects require a Project Aviation Safety Plan (PASP) reviewed by the RASM or RAO. Consult with the FAO/UAO early in the planning stage for assistance. Examples:

- Seeding, fertilization, spraying, and aerial photography;
- Timber, soil, hydrologic, and wildlife surveys; and
- Law enforcement.

A qualified helicopter manager shall supervise project helicopter operations. If there is no local Helicopter Program Manager or acting, contact the FAO/UAO or Regional HOS. Provide date and location information to the FAO/UAO and the local dispatch center.

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State Cooperators

State aviation programs that meet comparable Forest Service aviation safety standards may be used if State pilots and aircraft are approved by the RAO. (Refer to FSM 5712.14).

Military

National Guard (Title 32) helicopters shall be approved for FS use. They shall have a letter on board each helicopter stating that they are authorized for FS use. All FS policies and procedures apply when FS employees are involved (PPE, flight following, etc). Active Duty Military (Title 10) helicopters can be used, but only with prior approval from the RAO and only on a case-by-case basis. It is the responsibility of FS employees to verify both pilot and aircraft are authorized for the operation.

Pilot Briefing

Pilot Briefing shall be given to all contract pilots as soon as possible after the contract is activated. It shall cover the items shown in the pilot briefing checklist. (Refer to Appendix J, Pilot Briefing Checklist)

Helicopter Operations

General

The Eastern Region HOS shall review a trainee's completed Task Book prior to being signed off as Helicopter Manager.

Limited Type 2

Requires RAO approval in accordance with IHOG.

Limited Type 3

Type 3 Call-When-Need and Exclusive Use helicopters may operate as "Limited Use" within the Eastern Region provided adherence to the following guidance.

- Passenger Transport. The helicopter shall be fully staffed with a Helicopter Manager and two crewmembers.

- Suppression. On "very high" or "extreme" class days, the helicopter shall be fully staffed and able to respond to a dispatch within 10-minutes. All other class days, the helicopter may initial attack (IA) (bucket operations only) local agreement area wildfires with only a Helicopter Manager present. When practical, a Helicopter Crewmember (HECM) should be deployed to the dip-site to observe operations.

- Aerial ignition. The minimum personnel required to perform aerial plastic sphere operation are a Helicopter Manager, Burn Boss/Ignition Specialist, and Plastic Sphere Dispenser Operator (PLDO). A HECM shall remain at the departure point when the manager is aboard helicopter. Helitorch operations require a full helitorch module.

- Air-Attack, Helicopter Coordinator, Infrared, and Aerial Observer/Reconnaissance/Surveys. A minimum of one HECM shall remain at the departure point when the helicopter is performing these types of missions.

Bucket Operations (Extended)

Continuous communications capability between the helicopter and the flight following station or another aircraft is required while operating at the dip site. A ground observer able to communicate with the helicopter at the dip site may be used for this purpose.

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External Loads

Only pilots approved for external load work shall perform external load operations. Qualified personnel shall conduct long-line/remote hookups. Long-lines utilized for bucket operations shall be a minimum of 50-feet in length to reduce the risk of the bucket/load or line entanglement with the tail boom/tail rotor. Pilots utilizing long-lines shall be carded for vertical reference operations.

Initial Attack and Fire Support Transport

A helicopter manager shall supervise initial flight to a fire when the passengers are other than trained helitack. During fire support, personnel qualified in helicopter use shall supervise the operation at each helicopter-landing site.

Load Calculations

All flights shall be within the limits shown on the Helicopter Load Calculation (Form FS 5700-17 or Form OAS 67) prepared by the pilot and helicopter manager.

Wilderness Areas

Helicopter use in wilderness areas shall first be approved for fire, project, or emergency situations according to each specific Wilderness Plan. Long-line operations require a risk assessment, including consideration of other delivery methods before use. Long-line operations are classified as helicopter landings in some wilderness areas and require approval before use.

Military Rappel/STABO

Other than the WO approved Law Enforcement operation on the Shawnee NF; military rappel/STABO operations involving FS employees are prohibited.

Cargo Letdown/Toe-in

These operations are prohibited in the Eastern Region.

Airtanker Operations

General

Airtankers in the Eastern Region shall drop retardant/suppressants only 30-minutes before official sunrise to 30-minutes after official sunset.

Airtankers, leadplanes, and ASMs in the Eastern Region are not assigned to a specific incident, but rather, may be dispatched to any incident as priority dictates.

Airtankers leadplanes, and ASMs shall use the flight-following frequency assigned by local dispatch centers and shall use the same check-in procedures, normally every 15-minutes unless prearranged, used by all aircraft as delineated in the Regional Mobilization Guide.

An Air Tactical Group Supervisor (ATGS) is required for complex aviation operations (FSM 5716.32).

Mobile Airborne Fire Fighting System (MAFFS) is designed for use in military C130 aircraft. This system is capable of delivering 3,000-gallons of retardant. Washington Office (WO), Boise is directly responsible for the MAFFS Program.

Multi-Engine

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OPERATIONS

Contracting of multi-engine airtankers is done by the NIFC contracting group in Boise, Idaho. Inspection and approval of pilots and airtankers is the responsibility of the National Fixed Wing Specialist and the Maintenance Specialist/Aircraft Inspector respectively. However, designated Regional Pilot Inspectors and Maintenance Inspectors may be called upon to provide assistance throughout the contract periods.

Single-Engine

Refer to the Eastern Region Aviation Management & Safety Plan.

Contracts

Aviation Services Procurement

Obtaining aviation services utilizing a Blanket Purchasing Agreement (BPA) is prohibited in the Eastern Region. Forests shall obtain these services through Regional Call-When-Needed (CWN) or Exclusive Use Aviation Contracts.

5711.2 - Flight Services and End-Product Contracts

Use 5711.2, exhibit 01, to identify whether a project requires a flight services contract or an end-product contract. If the answer is yes in any block, the procurement must be conducted using the flight services process.

A. 5711.21 - End-Product Contracts

1. An end-product contract (FSM 5710.5) is intended to efficiently and effectively accomplish certain projects with no internal operational controls from the Forest Service. Certain aviation operations, such as aerial application of herbicides and insecticides, seed, fertilizer, prescribed burn projects, and some Burned Area Emergency Rehabilitation (BAER) projects may be administered in a more efficient and less expensive manner if contracted on an end-product basis, instead of through a Forest Service flight services contract.

2. Participation by Forest Service employees in end-product contracts is limited to quality assurance of the end product goals only.

3. Forest Service Grants of Exemption (FSM 5710.5 and 5714) from the Department of Transportation, Federal Aviation Administration (FAA) regulations, do not apply to end-product contracts. The contractor is required to comply with all State and Federal regulations for the type of work being performed. If departures from the applicable regulations are necessary, the contractor is responsible for obtaining them.

4. The decision to use an end-product contract removes the Forest Service from having operational control, thereby placing accountability for any aircraft accident with the operator/contractor.

B. 5711.22 - Flight Services Contracts

Aerial operations, such as seeding and mulching, and animal herding, gathering, and inventory that require the Forest Service to maintain operational control, require a flight services contract.

Operational control involves situations in which:

1. A contractor is required to use personal protective equipment, or

2. Forest Service personnel are actively involved in the project.

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OPERATIONS

5711.2 - Exhibit 01

End-Product Exhibit

If the answer is YES to any question below you must use the flight services process and contract. If the answers are NO, you may use the end-product contract.	Aerial photo remote sensing	Aerial application (spray/seed)	Aerial Ignition	Animal capture (net gun, dart, paintball, etc.)	Animal herding/gathering	Your project *
[1] Are agency personnel going to be on the aircraft for this mission?						
[2, 10] Is the aircraft currently being used as a public aircraft?						
[3] Is a helicopter manager required for this mission?						
[4] Is a "Fixed-Wing Flight Manager" or "flight manager" required for this?						
[5] Are you asking or requiring (written or verbal) the pilot/crew to wear PPE?						
[6] Are you asking for aircraft and pilot requirements (i.e. Cessna 206, or pilot must have PPE and Flight helmet)?						
[7] Are you requiring "pilot standards"?						
[8] Are you directing aircraft maintenance?						
[9] Are you controlling or directing aircraft "movement" (telling the aircraft where to go, how to do the project, how often to check in)?						
[10] Are you requesting exclusive control? Is the aircraft already under Government contract?						

* This may include incidental use of aircraft for various missions not identified in the exhibit. When evaluating such missions, local or regional aviation managers can assist in making decisions on type of procurement to use.

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OPERATIONS

5711.2 - Exhibit 01--Continued

[1] Agency personnel are assuming operational control of the mission from the aircraft.
[2] Public aircraft is defined in FSM 5705.
[3] Helicopter Manager requirements are listed in the Interagency Helicopter Operations Guide (IHOG).
[4] Fixed-Wing Flight Manager or Flight Manager requirements are listed in FSH 5709.16.
[5] Requiring personal protective equipment (PPE) assigns operational control to the Forest Service. This is a vendor decision for an end-product contract.
[6] Asking for these requirements assumes operational control by the Forest Service. This is a vendor decision for an end-product contract.
[7] By placing "pilot standards" (for example, a pilot must have minimum 50 hours in make/model aircraft to be flown) the Forest Service is not only asking for an aircraft to perform the mission, it is also assuming "operational control." The vendors place their own controls on the mission for the end-product contract.
[8] By directing aircraft maintenance (verbal or written) the Forest Service assumes "operational control." This is a vendor decision for an end-product contract.
[9] Controlling or directing aircraft "movement" assumes operational control by the Forest Service. For an end-product contract, simply state that the project starts by X date and finishes by Y date. Have vendor call before the start of the project and notify dispatch (to warn other aircraft working on forest/unit).
[10] The aircraft cannot be under the exclusive control of the government for an end-product contract. For example:

a. Under an end-product contract, NEVER use any flight services contracted aircraft, such as an exclusive use or Call When Needed (CWN) helicopter, that is currently working under that contract. However, if the helicopter is released from contract, the end-product contractor could hire the same vendor to perform the end-product service.

b. Under an end-product contract, participation by Forest Service employees is limited to end-product contract administration only.

c. Forest Service Grants of Exemption (defined in FSM 5710.5; for extensive direction, see FSM 5714) from the Department of Transportation, Federal Aviation Administration (FAA) regulations, do not apply to end-product contracts. If departures from applicable regulations are necessary, the contractor is responsible for obtaining them.

Safety

General

All employees have the responsibility to initiate action to stop any unsafe aviation operation (FSM 5720.45.2). Anyone may refuse or curtail a flight or operation when an unsafe condition may exist. Unsafe conditions shall be corrected on-the-spot when possible and documented on a SafeCom. If the unsafe condition raises a serious safety concern, it shall be immediately reported through channels to the RASM or RAO.

Aircraft Mishap Response Plan

This plan shall be updated annually for posting in each helibase and dispatch center. The FAO/UAO is responsible for local supplementation of the plan.

Passenger Briefings

Before each takeoff, the PIC shall ensure that all passengers have been briefed in accordance with the briefing items contained in 14 CFR 135 including (as applicable):

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OPERATIONS

- Use of seat belts and/or shoulder harness;
- Ingress / Egress procedures;
- Emergency Locator Transmitter (ELT);
- Oxygen system;
- Smoking (prohibited in the aircraft and within 50-feet of fuel servicing equipment/aircraft);
- First Aid Kit;
- Survival Kit;
- Personal Protective Equipment; and
- Location of Fire Extinguisher.

In those instances where short flights are made, the briefing does not need to be repeated unless new passengers are boarded.

Shoulder Harness/Seat Belts

All front seat occupants shall wear shoulder harness and seat belts. All occupants shall wear seat belts for takeoffs and landings, and as directed by the PIC.

Smoking

Smoking is prohibited aboard and within 50-feet of an aircraft or flammable/chemical storage area (FSH 5709.16).

Sterile Cockpit

During ground operations, takeoff/landing, and flight within 10-nautical miles of an airport, passengers shall refrain from talking with the pilot.

Personal Protective Equipment

General

The intent of this requirement is to equip individuals with the best PPE to the extent possible for all helicopter flights. Personal protective equipment (PPE) includes approved flight helmet, fire resistant flightsuit, gloves, and leather boots. It is the responsibility of each Forest Supervisor/Unit Manager to provide FS helicopter flight crewmembers with an aviator flight helmet and other necessary PPE. Personal protective equipment shall be operable and maintained in serviceable condition as per appropriate manufacturer's specifications.

All aircraft flights below 500' (i.e. Leadplane) require PPE as specified in FM 5716.31. Individuals aboard helicopters shall wear as a minimum PPE required for a firefighter as specified in the IHOG. Any deviation from this requirement shall be specified in the Project Aviation Safety Plan.

Helmets (Helicopter)

Personnel flying aboard helicopter shall wear a protective flight helmet with chinstrap fastened.

A hardhat maybe substituted for a flight helmet of wildland firefighter being transported during fire suppression operations between an established and managed helisport/helibase, and an established and managed helispot/helibasee.

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Aviators flight helmet, consisting of a one-piece hard shell made of polycarbonate, Kevlar, carbon fiber, or fiberglass, shall cover the top, sides (including the temple area and to below the ears), and the rear of the head. The helmet shall be equipped with a chinstrap and shall be appropriately adjusted for proper fit. Flight helmets for helicopter usage shall conform to a national certifying agency standard, such as DOT, Snell, SFI, or an appropriate military standard, or appropriate equivalent standard, and be compatible with required avionics. “Shorty” (David Clark style) helmets are not approved.

Flight helmets currently meeting this requirement are known to include:

- SPH-3, 4, 5, 8
- HGU-56, 84

Helmets designed for use in fixed wing aircraft do not provide adequate protection for helicopter occupants and are not approved for helicopter use.

Clothing (Helicopter)

In lieu of flightsuit, firefighters approved fire resistant pants and shirt may be worn. In accordance with Chapter 9 of the IHOG, rubber/synthetic boots may be worn if the environmental situation warrants; otherwise leather boots are required.

Personnel shall wear long-sleeved shirt and trousers (or long-sleeved flight suit) made of fire-resistant polyamide or aramid material, leather boots and leather, polyamide, or aramid gloves. A shirt with long-sleeves overlapping gloves, and long-pants overlapping boots by at least 2-inches shall be worn by the pilot(s). Personnel shall not wear clothing made of non fire-resistant synthetic material under the fire-resistant clothing described herein.

Nomex® or other material proven to meet or exceed specifications contained in MIL-C-83429A may be worn. Currently, the following "other" materials meet this specification:

- FRT Cotton Denim Cloth, MIL-C-24915
- FRT Cotton Chambray Cloth, MIL-C-24916

Clothing not containing labels identifying the material either by Brand Name or MIL-Spec will not be acceptable.

Ground Personnel (Helicopter)

While within the safety circle of a helicopter with engine(s) running and/or rotor(s) turning, all Contractor personnel shall wear the following personal protective equipment (PPE):

- Shirt with long-sleeves overlapping gloves, long-pants, hardhat/flight helmet with chinstrap, appropriate footwear, hearing and eye protection.
- Maintenance personnel working on running aircraft are exempt from gloves, eye protection (eye protection may be worn at the option of maintenance personnel or company policy), long sleeves, and hardhat requirements.

During all fueling operations, fuel service personnel shall wear a shirt with long-sleeves and long-pants made of 100% cotton/natural fiber, or labeled non-static, boots, and gloves.

Personal Flotation Devices

A personal flotation device (PFD) required by 14 CFR 91 or life preserver (TSO-C13) required by 14 CFR 135 shall be onboard all aircraft operated over water and beyond power-off gliding distance to shore, and during all hovering

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flight operations conducted over water sources such as ponds, streams lakes and coastal waters. Automatic inflation (water activated) personal flotation devices are prohibited.

When performing water takeoffs and landings, all occupants shall wear a PFD.

Anti-exposure suits shall be worn in all single-engine aircraft and readily available to occupants of multiengine aircraft when conducting extended over water flight (as defined in 14 CFR 1.1) and when the water temperature is estimated to be 50°F or below.

Fixed-wing Manager

Refer to Appendix E of this plan.

Aviation Training

An individual with aviation management responsibilities for a local unit or forest level (i.e. FAO) and serves as the focal point for aviation services and management should attend training courses listed (www.iat.nifc.gov) for aviation managers.

Avionics

The pilot-in-command (PIC) shall be capable of operating and performing basic programming functions of VHF/AM radios, VHF/FM radios and Global Positioning System (GPS) installed in the aircraft. This includes the ability to enter and utilize newly assigned frequencies and tones by selected channel position. The PIC shall be able to instruct a FS observer in how to perform basic programming and operation of VHF/AM radios, VHF/FM radios and GPS installed in the aircraft.

Chapter 3

FUELS AND FIRE BEHAVIOR

General

Located in the "Fire Management Plan" for the Shawnee National Forest will be a complete and comprehensive breakdown of each Fire Management Unit (FMU), including fuel types, fire behavior, occurrence, and historical data.

Managers should be familiar with the overall Fire Management Plan and the related fuels, weather, fire behavior, ecosystems and other information contained within Fire Management Plan for SHF.

Fire Management Situation

The fire environment in the SHF is a seasonal one that can be significantly influenced by wind and lack of precipitation. The largest influencing weather pattern is lack of rainfall. Fire occurrence is related to human actions with the largest percentage of fires caused by debris burning and arson activity. Therefore, days since last rain is significant in the likelihood of ignitions during the spring and fall fire hazard seasons.

Fire Season and Weather Patterns

The SHF experiences a split fire season. The spring season is generally defined as the period between February and early-May. The fall fire season begins in October and ends in early-December. However, there is potential for fires to occur during any period where precipitation is deficient and leaf litter fuels dry sufficiently to carry fire. Lightning is generally a minor causal agent with less than 1% of annual fires attributed to this source of ignition.

Activation of Incident Management Teams is a trigger point to review adequacy of program direction and oversight.

It is the responsibility of Fire and Aviation Management staff to ensure that proper oversight is provided to aviation operations during such times.

During the fall fire season, fire activity most frequently occurs between the end of October and the middle to end of November. During periods of sustained large fall fire activity, air operations may increase significantly with the addition of Type II and/or Type III helicopters. Activation of Incident Management Teams is a trigger point to review adequacy of program direction and oversight.

It is the responsibility of Fire and Aviation Management staff to ensure that proper oversight is provided to aviation operations during such times.

Dominate Fuel Types and Conditions Influencing Fire Behavior

The major fuel types found on the SHF are Leaf Litter, and fine flashy fuels. Spring; Leaf Litter, fine flashy fuels, Fall; fine flashy fuels and leaf litter, moderated dead and down fuels.

Chapter 4

RECORDS AND REPORTS

Flight Plans

When a pilot files a flight plan with dispatch, a record shall be kept in the Dispatcher's Log.

Daily Flight Reports

The Daily Flight Report (FS 6500-122) shall be used to record all flights where a payment is required. Flight cost will be provided to the user.

Annual Air Operations Report

The FAO or their designee shall complete this report by using the AMIS database program. (Refer to FSM 5717)

Exclusive Use Helicopter Report

This report is to be completed the FAO or their designee for all Exclusive Use RX and Suppression helicopters and returned to the Regional HOS by November the 1st of each year. (Refer to Appendix K, Exclusive Use Helicopter Report)

Administrative Flight Package

In order to comply with FSM 5711.2 each FAO or their designee will forward, on the first day of each month, the previous month's completed "Administrative Flight Packages", to the Eastern Area Coordination Center (EACC) Aircraft Desk. This package will include the Administrative Flight Request/ Schedule (BLM 9400-1a), Flight Use Report (FS-6500-122) and Flight Request/ Justification for Administrative Use of Aircraft (FS-5700-10).

Senior Federal/Congressional/Non-Federal Travel Report

This report is due to the EACC Aircraft Desk semiannually. Record on this form administrative (non-mission) travel by Senior Federal Officials, non-Federal passengers, and Congressional members aboard Forest Service owned or contract/rental agreement aircraft for any purpose. (Senior Federal Travel Form GSA-3641)

Chapter 5

SAFETY

Purpose

The primary purpose of the Aviation Safety Program is to eliminate mishap occurrences.

Objectives

- Increase safety awareness through aviation training.
- Eliminate human exposure to hazards through implementation of effective risk management techniques.
- Eliminate loss of life, suffering from injury of permanent impairment, and the anguish and suffering of family and friends.
- Eliminate the costs associated with mishaps.

Awareness

Safety awareness is a mental attitude and individual commitment fostered by proper management and supervisory procedures. Forest Service management must be a partner in aviation safety to ensure that the standards and procedures established are understood and followed. It means that where operational decisions must by made, they are made prudently, with safety given priority over mission accomplishment. This requires individuals to know how to do a job or mission properly, applicable FS policies, approved operating procedures, and how to follow them consistently. With a safety awareness attitude and appropriate training, most aviation mishaps can be prevented.

Aviation safety cannot be legislated or mandated; it can only be successfully accomplished by fostering and inspiring an attitude in which aviation safety is the foremost priority. An undeviating and persistent commitment to professional conduct by everyone involved in the aviation program is paramount to achieving mishap prevention and successful risk management.

All individuals involved in the aviation program play a role in the successful and safe outcome of aviation activities. However, management is responsible for achieving safety goals. This can only be accomplished through awareness and uncompromising support by management.

Risk Management

Risk management is a technique of applying order to an intuitive human decision-making process. The decision is how to do something considering hazards, exposure to those hazards, and probability of a specific hazard contributing to a mishap.

Risk = Hazards x Exposure x Probability

Hazards

The causes of damage and injury. Human error is the most difficult hazard to predict and in the past has been the cause of 80% of all aviation mishaps.

Exposure

The frequency of occurrence and the number of people or aircraft placed against a hazard.

Probability

The likelihood that considering the hazard and exposure, a mishap is likely to occur. It is important to note that similar missions accomplished without mishap does not mean that you have a no-risk mission.

The process of managing risks makes operations safer without compromising the mission accomplishment with a mishap. The purpose of managing risks is to preserve human and material resources by identifying and preventing events that cause damage and injury to those resources. Three rules guide the risk management process.

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SAFETY

- Accept no unnecessary risk
- Make risk decisions at the proper level
- Accept risks only if benefits outweigh the potential safety costs

Successful outcomes can be achieved by applying the following steps of risk management to each flight or aviation mission:

- Identify Risks. Identify specific risks associated with all specified and implied tasks. Determine the hazards, exposures, and probabilities causing these risks.
- Assess Risks. Determine the magnitude of each risk.
- Make Decisions: Make risk acceptance decisions by balancing risk benefits against risk magnitude, and eliminate unnecessary risks. These decisions should include the appropriate level of FS management whenever possible. Sometimes the only decision to be made is to cancel the mission. More often the benefits justify the mission, but only if the risks can be minimized by controls over how and who conducts the mission. This also helps to reduce the potential costs of a mishap to an acceptable level.
- Identify Controls. Appropriate controls may be in the areas of individual qualifications, performance of the aircraft, aircraft equipment, weather conditions, operating procedures, ground support equipment and people, personal protective equipment, communications and others. Appropriate controls reduce the magnitude of mission-essential risks through proper application of established and identified controls.
- Implement Controls. Integrate specific controls into aviation plans and mission performance. Knowledge and understanding of controls down through the organization to each individual involved in aviation use is essential to the successful and safe outcome of each mission. This means following established agency policies and procedures contained in FS documents. It means using trained personnel and following all contract specifications.
- Approval. Decision to perform the mission and approval made at appropriate level.
- Monitor Operations. Review mission performance, suitability of controls, adherence to controls, and mission progress. Take prompt and appropriate corrective actions.

Prevention

The moving force driving aviation safety and training efforts is “Safety through Prevention.” Risk management is a key component in successful mishap prevention.

Identifying Hazards

Steps must be taken to detect and accurately identify those hazards that increase the risk in accomplishing FS aviation missions. Hazard identification is most effectively approached as a team effort, as many hazards that exist in both ground and flight operations may not be readily detectable. Diverse perspectives are held by all individuals (pilots, mechanics, managers, foremen, crewpersons, etc.) associated with aviation operations.

Hazard identification is accomplished through a sequence of prescribed actions, which are similar, whether taken before or after a mishap. Actions taken prior to a mishap are “proactive” measures and are intended to prevent occurrence. Actions taken after a mishap are “reactive measures” and are intended to prevent recurrence. These actions may be termed hazard detection and hazard correction. Although both hazard detection and correction are integral components of our prevention efforts, the greatest benefit is gained through proactive prevention efforts. Therefore, our major effort should be to implement “proactive” measures for the purpose of preventing mishap occurrence.

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Human Factors

Human error is the single area that if possible to eliminate or reduce, would pay the greatest dividends in mishap prevention since it touches every operation. Human behavior is so complex that it is unrealistic to think that human error can be eliminated. Realistic training and experience are the most effective methods of minimizing human error mishaps as much as can be expected. When a person responds to an emergency situation, they immediately rely on trained reactions or past experiences. We must provide appropriate training and meaningful experience to individuals who are placed in positions requiring them to manage risk effectively.

Management or supervisory errors that directly or indirectly exert pressure on individuals to act against their judgement, stretch or ignore policy and standard operating procedures, or complete the mission regardless of risk is another form of human error that causes many mishaps.

Aviation Mishap Response Plan

Aviation personnel shall familiarize themselves with the local Forest Aviation Mishap Response Plan. The plan's Emergency Contact List must be kept current (Refer to Appendix O). Mishap response training shall be conducted annually and include the following:

- Review of the Aviation Mishap Response Plan
- Conduct equipment familiarization and emergency flight procedures
- Conduct a crash response simulation

Hazard, Incident, and Mishap Reporting

Each individual and organizational unit has an obligation to the aviation community to share mishap prevention information. A communication tool used to assist in this effort is the SafeCom (FS 5700-14).

Aviation Safety Communiqués

Aviation Safety Communiqués (SafeCom) are used to report any condition, observance, act, maintenance problem, or circumstance, which has potential to cause an aviation-related mishap. Submitting a SafeCom is not a substitute for "on-the-spot" correction(s) to a safety concern, rather it is a tool used in the documentation, tracking, and follow-up corrective action(s) related to safety issues. Categories of reports include aircraft mishaps, aviation hazards, aircraft maintenance deficiencies, and airspace intrusions.

If a mishap involves damage or injury notify the Regional Aviation Office immediately by the most expeditious means available.

Non-scheduled aircraft maintenance or repairs require that the Regional Aircraft Maintenance Inspector be notified before the aircraft is returned to service. A SafeCom is required to be submitted to the Regional Aviation Safety Manager (RASM) within 5-days of the return to service.

All employees have the responsibility to initiate action to stop any unsafe aviation operation (FSM 5720.45.2). Anyone may refuse or curtail a flight or operation when an unsafe condition may exist. Unsafe conditions shall be corrected on-the-spot when possible and documented on a SafeCom. If the unsafe condition raises a serious safety concern, it shall be immediately reported through channels to the RASM or RAO.

Submission (Electronic)

Access the FS Aviation Web Site at: www.fs.fed.us/fire/av_safety

From the Home page click on the "SafeCom" button.

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From the SafeCom page, click on “Submit a SafeCom” and complete the form. Once submitted, the SafeCom shall reside in the FS Aviation Management Information System (AMIS) database and designated aviation managers shall be notified by email that a SafeCom has been submitted within the selected region.

Submission (Hard Copy)

Fill out the SafeCom form and provide a copy to the FAO.

Upon receipt, the FAO shall submit the SafeCom electronically.

Processing

Once a SafeCom comes to the attention of the FAO, when necessary, corrective action(s) and comments should be documented on the form. It is incumbent on the FAO to quickly process SafeComs for distribution and dissemination to aviation users and managers.

Dissemination

Timely distribution of SafeComs is a key component in mishap prevention. SafeComs may be accessed and printed from the “Public Access” area of the database. The FAO and RASM should be contacted if additional information or follow-up action(s) is required.

Access (Protected Area)

Access to the SafeCom “Protected Area” is limited to regional staff aviation program managers and FAOs.

Appendix A

DEFINITIONS AND ABBREVIATIONS

Definitions

Administrative Use. Use of a Government aircraft for routine (non-emergency) point-to-point transportation of authorized passengers and cargo. Emergency support or tactical transportation of fire crews, overhead, and other personnel or equipment required for management of an incident or project, are not considered administrative use. (See definition of "mission use").

Aircraft Accident. An occurrence associated with the operation of an aircraft, which takes place between the time any person boards the aircraft with the intention of flight and all such persons have disembarked, and in which any person suffers death or serious injury, or in which the aircraft receives substantial damage.

Aircraft Incident. An occurrence other than an accident, associated with the operation of an aircraft, which affects or could affect the safety of operations.

Airspace Conflict. A near mid-air collision, intrusion, or violation of airspace rules.

Alternate Base. A base, other than the designated base, established to permit operation from vicinity of a project area.

Aviation Hazard. Any condition, act, or set of circumstances that exposes an individual to unnecessary risk or harm during aviation operations.

Cargo. Any material thing carried in the aircraft.

Civil Twilight. Begins in the morning, and ends in the evening when the center of the sun is geometrically 6 degrees below the horizon.

Contractor. An operator being paid by the Government for services.

Crewmember. A person assigned to perform duty in an aircraft during flight time.

Cruising Speed, Service Ceiling, and Cruising Range. Shall be the same as applied by the CAB and FAA, United States Department of Transportation and the aircraft manufacturer.

Fatal Injury. Any injury, which results in death within 30-days of the accident.

Federal Aviation Regulations. Rules and regulations contained in Title 14 or the Code of Federal Regulations.

First Aid. Any medical attention that involves no medical bill. If a physician prescribes medical treatment for less than serious injury and makes a charge for this service, that injury becomes "medical attention."

Fixed-wing Manager. A Fixed-wing Manager will be designated for all passenger airplane flights other than scheduled airline flights. The unit scheduling the flight will make this designation. On those flights with only one passenger, that passenger will become the Fixed-wing Manager. When a flight manager, such as a mission coordinator or helicopter manager, is already assigned, a Fixed-wing Manager need not be designated

Flight Time. Begins when the aircraft leaves the ground in takeoff for a given flight and ends when the aircraft has taxied to parking or unloading spot when the aircraft has landed.

Forced Landing. A landing necessitated by failure of engines, systems, components, or incapacitation of a crewmember, which makes continued flight impossible, and which may or may not result in damage.

Fully Operated. The Contractor shall furnish the aircraft, pilots, and other personnel, repairs, operating supplies, service capability, and other incidentals necessary to the operation of the aircraft.

General Aviation. That portion of civil aviation that encompasses all facets of aviation except air carriers.

Appendix A

DEFINITIONS AND ABBREVIATIONS

Ground Mishap, Aircraft. An aircraft mishap in which there is no intent to fly; however, the power plants and/or rotors are in operation and damage incurred requiring replacement or repair of rotors, propellers, wheels, tires, wing tips, flaps, etc., or an injury is incurred requiring first aid or medical attention.

Incident-With-Potential. An incident that narrowly misses being an accident and in which the circumstances indicate significant potential for substantial damage or serious injury. Final classification shall be determined by the Forest Service, National Aviation Safety Manager.

Instrument Flight Rules. As defined in Chapter 91 of the Federal Air Regulations of the FAA.

Life-Threatening. A situation or occurrence of a serious nature, developing suddenly and unexpectedly and demanding immediate action to prevent loss of life.

Maintenance Deficiency. An equipment defect or failure which affects or could affect the safety of operations, or that causes an interruption to the services being performed.

Medical Attention. An injury, less than serious, for which a physician prescribes medical treatment and makes a charge for this service.

Mission Use. The use of an aircraft that in itself constitutes discharge of official Forest Service responsibilities. Mission flights may be either routine or emergency, and may include such activities as lead plane, smokejumper/para-cargo, aerial photography, mobilization or demobilization of emergency support resources, reconnaissance, survey, and project support. Mission flights do not include official travel to make speeches, attend conferences or meetings, or make routine site visits.

Mishap, Aviation. Mishaps include aircraft accidents, incidents-with-potential, aircraft incidents, aviation hazards and aircraft maintenance deficiencies.

Night. The time between the end of evening civil twilight and the beginning of morning civil twilight, as published in the American Air Almanac, converted to local time.

Official Sunset and Sunrise. The times when the upper edge of the disk of the Sun is on the horizon, considered unobstructed relative to the location of interest. Atmospheric conditions are assumed to be average and the location is in a level region on the Earth's surface.

Operational Control. The condition existing when an entity exercises authority over initiating, conducting or terminating a flight.

Operating Agency. An executive agency or any entity thereof using agency aircraft, which it does not own.

Operator. Any person who causes or authorizes the operation of an aircraft, such as the owner, lessee, or bailee of an aircraft.

Passenger. Any person aboard an aircraft who does not perform the function of a flight crewmember or crewmember.

Pilot-In-Command. The pilot responsible for the operation and safety of the aircraft during the time defined as flight time.

Point-to-Point. Aircraft operations between any two geographic locations operationally suitable for take-off and landing (airport-to-airport).

Precautionary Landing. A landing necessitated by apparent impending failure of engines, systems, or components, which makes continued flight inadvisable.

SafeCom. Use to report any condition, observance, act, maintenance problem, or circumstance, which has potential to cause an aviation related mishap. The purpose of the SafeCom form is not intended to be punitive in nature. It

Appendix A

DEFINITIONS AND ABBREVIATIONS

shall be used to disseminate safety information to aviation managers, and also to aid in accident prevention by trend monitoring and tracking.

Serious Injury. Any injury which: (1) requires hospitalization for more than 48-hours, commencing within 7-days from the date the injury was received; (2) results in a fracture of any bone (except simple fractures of fingers, toes or nose); (3) causes severe hemorrhages, nerve, muscle or tendon damage; (4) involves any internal organ; or (5) involves second or third-degree burns, or any burns affecting more than 5% of the body surface.

Special Mission Aircraft. Aircraft approved for other than point-to-point only missions. Transportation is limited to personnel required to carry out the special mission of the aircraft.

Substantial Damage. Any damage or failure which adversely affects the structural strength, performance or flight characteristics of the aircraft, and which would normally require major repair or replacement of the affected component. Engine failure or damage limited to an engine if only one engine fails or rotor or propeller blades, and damage to landing gear, wheels, tires, flaps, engine accessories, brakes, or wing tips are not considered “substantial damage" for the purpose of this part.

Trip. The elapsed time between the time that an aircraft leaves its designated base point and time of return to that point.

Visual Flight Rules. As defined in Chapter 91 of the Federal Air Regulations of the FAA.

Abbreviations

A&P	Airframe & Powerplant (Mechanic)
AD	Airworthiness Directive
AFAO	Assistant Forest Aviation Officer
AMIS	Aviation Management Information System
ARTCC	Air Route Traffic Control Center
AOBS	Aerial Observer
ATBM	Airtanker Base Manager
ATC	Air Traffic Control
ATGS	Air Tactical Group Supervisor
ASM	Aerial Supervision Module
CAB	Civil Aeronautics Board
CFR	Code of Federal Regulations
CG	Center of Gravity
CI	Contract Inspector
CO	Contracting Officer
COR	Contracting Officer’s Representative
CFR	Code of Federal Regulations
COR	Contracting Officer's Representative
CWN	Call-When-Needed
DOI	Department of the Interior
DOT	Department of Transportation
ELT	Emergency Locator Transmitter
EPA	Environmental Protection Agency
ETA	Estimated Time of Arrival
FAA	Federal Aviation Administration
FAO	Forest Aviation Officer
FAR	Federal Aviation Regulations
FDO	Forest Dispatch Office
FMO	Fire Management Officer
FMSO	Fire Management Staff Officer

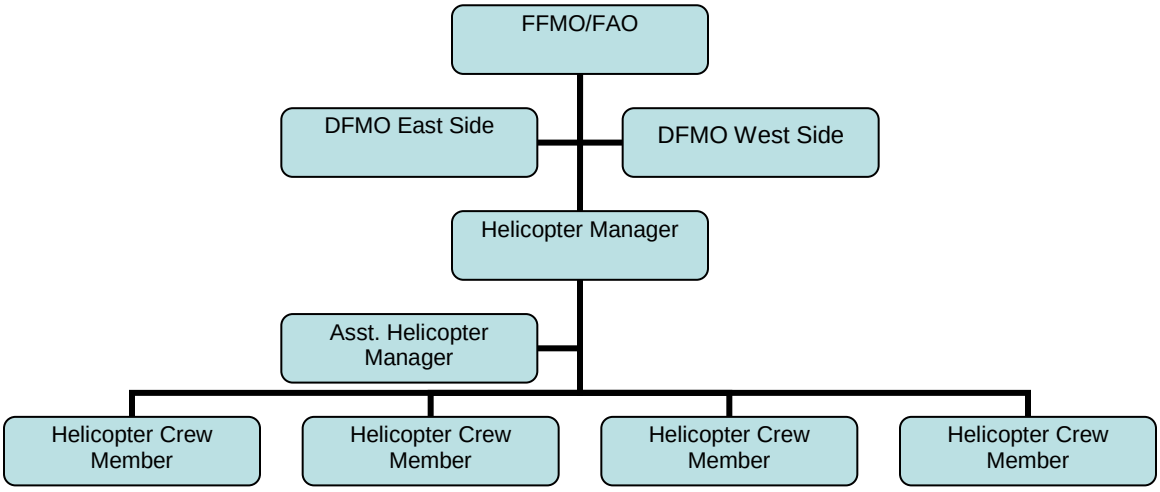
Appendix A

DEFINITIONS AND ABBREVIATIONS

FPMR	Federal Property Management Regulations
FS	Forest Service
FSH	Forest Service Handbook
FSM	Forest Service Manual
FSO	Fire Staff Officer
FSS	Flight Service Station
GACC	Geographic Area Coordination Center
GFP	Government Furnished Property
GSA	General Services Administration
HEB1	Helicopter Manager (Type 1)
HEB2	Helicopter Manager (Type 2)
HELM	Helicopter Manager (Call-when-Needed)
HELB	Helicopter Manager (Exclusive Use)
IC	Incident Commander
IHOG	Interagency Helicopter Operations Guide
IFR	Instrument Flight Rules
IMC	Instrument Meteorological Conditions
IR	Infrared
KBDI	Keech-Byrum Drought Index
M&IE	Meals and Incidental Expenses
MOA	Military Operations Area
MSDS	Material Safety Data Sheets
MSL	Mean Sea Level
MTR	Military Training Route
MXMS	Mixmaster
NCC	North Carolina Coordination Center
NFES	National Fire Equipment System
NICC	National Interagency Coordination Center
NTSB	National Transportation Safety Board
NOTAM	Notice to Airmen
OMB	Office of Management and Budget
PAB	Portable Airtanker Base
PAO	Project Aviation Officer
PASP	Project Aviation Safety Plan
PFD	Personal Floatation Device
PIC	Pilot-in-Command
PPE	Personal Protection Equipment
RA	Restricted Area
RAMP	Ramp Manager
RAO	Regional Aviation Officer
RASM	Regional Aviation Safety Manager
SACC	Southern Area Coordination Center
SAFECOM	Safety Communiqué
SAR	Search and Rescue
STABO	Stability Operations
TBO	Time Between Overhaul
TFR	Temporary Flight Restriction
USDA	United States Department of Agriculture
VFR	Visual Flight Rules
WO	Washington Office

Appendix B

AVIATION ORGANIZATION CHART



Appendix C

FIXED WING MANAGER DUTIES AND RESPONSIBILITIES

A Fixed-wing Manager will be designated for all passenger airplane flights other than scheduled airline service flights. The unit scheduling the flight will do this designation. When a flight manager, such as a mission coordinator or helicopter manager, is already assigned, a Fixed-wing Manager will not need to be designated.

Individuals designated as Fixed-wing Manager shall have received training in performing FWM duties. A FS pilot may be designated as FWM. As a minimum this training should include: All current requirements for FWM and NFES 1373 Interagency Aviation User Pocket Guide, and NFES 1399 Five Steps to a Safe Flight.

Fixed-wing Manager duties and responsibilities are also found in FSH 5709.16 and Chapter 60 of the National Interagency Mobilization Guide, and includes:

- Overview of travel and final destination
- Route of travel, intermediate stops, if applicable, and estimated time(s) of arrival
- Ensure the passenger manifest is accurate and contains the correct names and weights
- Provide one copy of the manifest to the PIC and ensure that additional copies are available for the receiving unit and sending unit dispatcher
- Assist in the stowage of baggage as directed by the PIC
- Assemble the personnel in an orderly manner in the designated staging area
- Ensure the pilot and aircraft are currently authorized for the intended mission and the PIC can verify the aircraft is within the weight and balance limitations
- Ensure that a passenger briefing is provided
- Maintain a current list of telephone numbers for the sending and receiving units, including dispatch numbers for reporting delays of more than 30-minutes. Provide the receiving dispatcher with the reason(s) for the delay and a revised Estimated Time of Arrival (ETA).

Appendix D

CONTRACTING ORGANIZATION CHART

Note: The above Organization Chart is considered as very flexible as the Contracting Officer designates the Contracting Officer's Representative (COR) and delegates specific responsibilities to the individual for the specific contracts. The COR designates the Contract Inspector and delegates specific responsibilities to the individual for the specific contract.

Appendix E

TEMPORARY FLIGHT RESTRICTIONS CHECKLIST

- ✓ Receive request for Temporary Flight Restrictions (TFR) from Incident Commander (IC), Project Manager, Air Attack, Leadplane, Aerial Supervision Module (ASM) or Air Operations Branch Director (AOBD).
- ✓ Plot Incident or Project location on map. [If Special Use Airspace or Military Training Routes (MTR) involved pass this information to Air Route Traffic Control Center (ARTCC)]
- ✓ Complete resource order with request for TFR.
- ✓ Request TFR through the FAA NOTAM Entry System (NES) secure website. Obtain NOTAM # on line by going to : www.notams.faa.gov. Review the TFR and enter the NOTAM number into ROSS- if needed contact the appropriate ARTCC watch desk at : Memphis Center-(901)-368-8234 or the Kansas City Center (913)-791-8500.
- ✓ If Special Use Airspace (MOA, RA, MTR) is involved, contact appropriate Military Scheduling Agency and request de-confliction of airspace until TFR is granted by FAA). Document military contacts.
- ✓ Notify IC, Project Manager, Air Attack, Leadplane, ASM or AOBD and all aircraft of TFR status. Relay information of activity in Special Use Airspace as applicable.
- ✓ Confirm that the TFR is depicted and the Notice to Airmen (NOTAM) correctly posted by ARTCC.
- ✓ Provide Eastern Area Coordination Center (EACC) (Tel. 612-713-7300) with TFR Number.
- ✓ Conduct a daily follow-up with ARTCC of status and continued need for TFR

Appendix G

Resource Order Number: Request #: A -	Date: _____ Time:
To: FAA ARTCC _____ FAA Person Contracted: _____ FAA Phone:	**From**: Dispatch Office _____ Person Requesting TFR: _____ 24 Hr. Phone (No toll Free #s):

[ ] Check if this TFR is a replacement. If so, NOTAM of TFR being replaced. _____
(Existing TFRs cannot be changed, only cancelled and replaced.)

Geographic Location of Incident (nearest town, state): _____

Location (Circular TFR) List nearest NAVAID (distance should be less than 50 NM) – do not use NDB or T-VOR				
VOR ID	Radial (Degrees)	Distance (NM)	Lat/Long of Center Point (use US NOTAM Office Format ddmmssN/dddmmssW)	Radius (NM) (5 NM is standard)
			N/ W	

Or (Polygon TFRs should be rare and only used if circular shape is not adequate.)

Location (Polygon TFR) (List perimeter points in clockwise order) List nearest NAVAID (distance < 50 NM) – do not use NDB or T-VOR.									
Point	VOR ID	Radial (Degrees)	Distance (NM)	Lat/Long (ddmmssNdddmmssW)	Point	VOR ID	Radial (Degrees)	Distance (NM)	Lat/Long (ddmmssNdddmmssW)
1					5				
2					6				
3					7				
4					8				

Altitude restrictions: _____ Feet MSL (do not use AGL – Standard is 2,000' above highest terrain point)

The _____ / _____ at _____ _____
Agency Name Incident Name 24 Hr Phone # VHF – AM Air/Air Frequency

Is in charge of on scene emergency response activities. TFR to provide a safe environment for fire fighting aircraft operations effective immediately, until further notice, 24 hrs/day.

The requested TFR affects the following Special Use Airspace:					
The requested TFR affects the Military Training Routes listed below:					
Route	Scheduling Activity	Segment(s)	Route	Scheduling Activity	Segment(s)

Important Note To FAA: If the TFR affects SUA and/or MTR(s), we request NOTAM distribution to all military bases involved, to the Coordinating Flight Service Station, and, for MTRs, to the Flight Service Station and Air Route Traffic Control Center with responsibility for the airspace at the rout entry point(s).

NOTAM #: _____ **Issued at:** _____ **On:** _____ **(Date)**

Data/Time TFR Cancelled: _____ **By:** _____

USDA Forest Service	FS-5700-10 (9/93)

Appendix G

FLIGHT REQUEST/JUSTIFICATION FOR ADMINISTRATIVE USE OF AIRCRAFT
(FSM 5710 & FSH 5709.11 Ch. 10)

User: _____ Date(s) of Use: _____
Agency/ Unit

Purpose of Flight

Service Requested:

Planned travel requires the use of air transportation, and Forest Service operated or charted aircraft will be used because (check a, b, or c. If c is checked, attach a cost comparison).

[ ] a The aircraft is schedule to perform a bona fide mission, training, or proficiency activity compatible with secondary use of the flight for transportation, and the minimum mission, training, or proficiency requirements have not been exceeded.

[ ] b No airline service is reasonable to effectively fulfill the transportation requirement that is within the same calendar day as required.

Explanation:

[ ] c The actual cost of using this aircraft is not more than other suitable and available air transportation. (Use FS-5700-11, Cost Comparison Travel Worksheet.) This cost should be the total cost of the Government; calculations should include per diem, overtime, and lost work time as well as actual transportation costs.

_____
Signature

Appendix H

USDA Forest Service

INFRARED AIRCRAFT SCANNER REQUEST

P Number: _____

Date of Order: _____ Time of Order: _____

Incident Name: _____ Number: _____

Ordering Unit: _____ Telephone: _____

Local Dispatch: _____ Telephone: _____

Regional Coordination Center: _____

National IR Coordinator (Name): _____ Telephone: _____

IR Field Specialist: _____ Telephone: _____

Fax: _____

IR Interpreter Ordered: Yes [ ] No [ ]

Name of Motel/Hotel: _____ Telephone: _____

Fax: _____

Incident Location (Lat/Long): _____

Elevation (Incident): _____ Approximate Size: _____

Weather at Deliver Point: _____

Delivery Point (City or Airport): _____ Time: _____

Alternate Delivery Point: _____

Radio Frequencies: Local Admin Unit _____ Tone: _____Mhz

Air Attack Supervisor _____ Tone: _____Mhz

Remarks:

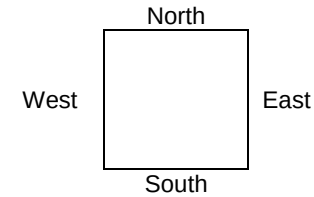
Information Needed For Each Mission

North: _____

South: _____

East: _____

West: _____



Instructions:
1. Write full degrees, minutes, and seconds for each side of the Box.
2. Use area codes on all Telephone and Fax Numbers.
3. Complete all information Blocks. Write large and legible.
4. Add additional pages for Complexes with more than one Box.

Appendix I

USDA Forest Service FS-5700-12 (9/93)

DAY TRIP AUTHORIZATION
(FSM 5710: FSH 5709.11 Ch. 10)

Date: _____/_____/_____

Make/Model of Aircraft: _____ Registration No: _____

Operator: _____

Purpose of Flight

Route of Flight

Passenger Name	Affiliation

Forest Service Sponsoring Unit: _____

I certify that the person(s) listed above has an official purpose for being on this flight and any associated surface transport. I recognize that the Government may incur increased liability exposure under the Federal Tort Claims Act, 28 U.S.C. 2680, and that ownership of the conveyance(s) in question does not alter the Government's liability (Comptroller General Decision B-231814, January 19, 1989). I have determined that the benefits justify the operation.

_____
Signature and Title of Sponsoring Unit Representative (FSM 5716.4)

Appendix J

PILOT BRIEFING CHECKLIST

lot Briefing Checklist

- Local Communications Systems
- Transmitter sites and call sign identifiers
- Lead plane communications and communication procedures
- Communications plans
  - ✓ Large fire
  - ✓ Airfield and tanker base
- Dispatching Procedures
  - ✓ Forest fire
  - ✓ State or zone
  - ✓ Regional
- Legal description as well as Lat./Long (Lookouts use true bearings)
- Prominent landmarks
- Forest fuels and fire behavior (Pocket Cards)
- Flight Hazards
- Payment Procedures and Contract Administration
- Submitting flight reports
- Duty limitations and days off
- Maintenance scheduling
- Tanker Base Operations (Refer to local Air Tanker Base Plan)

Appendix K

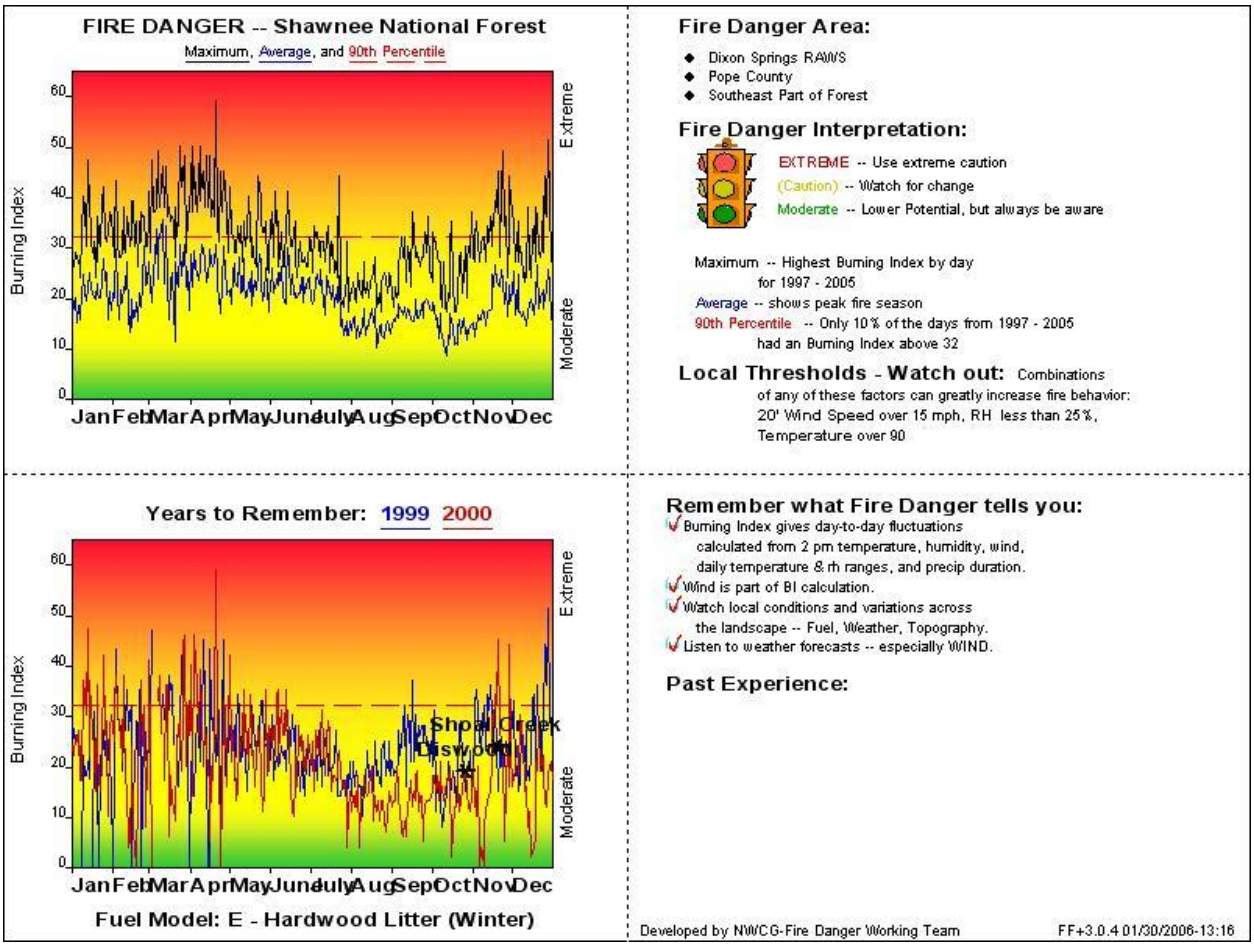
EXCLUSIVE USE HELICOPTER REPORT

This report is for the following dates. Start: _____ Stop: _____

1. Base name. _____
2. Region and Unit. _____
3. Base contact person. _____
4. Helicopter make/model. _____
5. Number of initial attacks for season. _____
6. Number of large fires. _____
7. Percent of initial attacks supported with helicopter bucket/tank. _____ %
8. Percent of initial attacks demobed by helicopter. _____ %
9. Crew size. _____
10. Number of days helicopter was under contract. _____ days
11. Hours flown for fire management. _____ hrs
12. Hours flown for "other users." _____ hrs
13. Hours flown "On" Forest. _____ hrs
14. Hours flown "Off" Forest. _____ hrs
15. Total hours flown. _____ hrs
16. Number of passengers carried. _____ paxs
17. Pounds of cargo carried. _____ lbs (internal) _____ lbs (external)
18. Gallons of retardant/water/foam delivered (combined). _____ gals
19. Helicopter daily availability rate. $ _____
20. Helicopter hourly flight rate. $ _____
21. Total contract cost for season. $ _____
22. Is your crew aerial ignition certified (Y/N) _____
23. Type and number of aerial ignition equipment. (Helitorch/PSD) _____
24. Location of aerial ignition equipment (city and state) _____
25. Number of person days in support of large fires _____ days
26. Number of person days on prescribed fire assignments _____ days
27. Number of acres treated with aerial ignition _____ acres
28. Number of plastic spheres utilized _____
29. Provide an example of a fire suppression effort that resulted in a significant resource or dollar savings, e.g. successful structure protection, decreased exposure to firefighters, multiple use of the helicopter on a wildfire, reduced number of shifts on the fire, etc.

Appendix L

NFDRS POCKET CARDS



Appendix L

EMERGENCY CONTACT LIST

FAA Flight Service Station	**800-992-7433**
FAA Communication Center	**202-267-3333**
NTSB Communication Center	**202-314-6290**

Primary Response (Emergency Responders)	
Fire Department	911 or County Specific
Police	911 or County Specific
Ambulance	911 or County Specific
Air Ambulance Mississippi Bluffs RD St. Frances in Cape	1-573-331-3000
Air Ambulance Hidden Springs RD Lourdes in Paducah KY	1-888-875-9633 (Sky Med)
Secondary Response (Support Personnel)	
Hospital Hidden Springs RD	618-684-3156 St Joseph, Murphysboro, IL
Hospital Mississippi Bluffs RD	270-444-2444 Lourdes, Paducah, KY
SHF Dispatch	866-684-2051
SHF NF Law enforcement Officer	866-684-2051 (Dispatch)
Eastern Area Coordination Center	612-713-7300
FAA Flight Service Station	800-992-7433
NTSB	202-314-6290
Agency Management and Other Agencies (As Required)	
SHF Safety Officer	Chris Peterson-618-253-1032, 618-521-6729
SHF Aviation Officer	Chris Peterson
SHF Fire Management Officer	Chris Peterson
SHF Public Affairs Officer	Becky Banker-618-253-1060, 618-201-3364
Regional Aviation Safety Manager	Vacant
Regional Aviation Officer	Tim Caughlin 414-297-3744
Regional Public Affairs Officer	Jane Cliff, 414-297-3664
Regional Aircraft Maintenance Inspector	Rick Howe- 414-297-3165, 414-339-8480
Regional Helicopter Operation Specialist	Scott Hocking-612-713-7301, 414-339-8486
Regional Helicopter Pilot Inspector	Vacant
Aviation Contracting Officer	414-297-3625 – Richard Saltzman